IN THE UNITED STATES PATENT & TRADEMARK OFFICE	
IN RE APPLICATION OF: SENN ET AL.	
APPLICATION NO.: 10/801,405	
Filed: March 16, 2004	Group Art Unit: 1616
For: Pesticidal Compositions	Examiner: PRYOR, ALTON M.
Commissioner For Patents P.O. Box 1450 Alexandria, VA 22313-1450	

DECLARATION UNDER RULE 132

I, Leslie Fuquay, a citizen of the United States, residing in Chapel Hill, NC USA, hereby declare:

CREDENTIALS

My Experience

- **R&D Scientist II** – Syngenta Crop Protection, Inc., Biological R&D Data Management Greensboro, NC,
  - (2000-present)
- **Regional Data Coordinator** – Zeneca Ag Products, Inc., Eastern Reg. Tech. Ctr, Whitakers, NC
  - (1997-2000)
- **Weed Science Research Assistant** – North Carolina State University, Raleigh, NC
  - (Jun 1993 - Dec 1995)
- **Research Specialist, Weed Science and Agronomy** – VPI&SU Tidewater Agric. Exp. Stn, Suffolk, VA
  - (Oct 1988-Apr 1993)
- **Agricultural Research Technician** – USDA-ARS, Tidewater Agric. Exp. Stn, Suffolk, VA
  - (Jan 1988-Oct 1988)
- **Plant Pathology Lab Aid** – VPI&SU Tidewater Agric. Exp. Stn, Suffolk, VA
  - (Jun 1986-Nov 1987)
- **Woodlands Research Technician** – Union Camp Corporation, Franklin, VA
  - (Apr 1985-Oct 1985)

My Education, Training & Certification

- **North Carolina State University – M.S. Crop Science** (major: weed science, minor: statistics); conferred May 1995
  - *Honors:* Phi Kappa Phi; First Place Award, 1995 Southern Weed Science Society Graduate Student Paper Contest
- **North Carolina State University – B.S. Forestry** (concentration: biometry); conferred December 1984
  - *Honors:* Dean's list, Senior Honors Research Project and Seminar, Xi Sigma Pi Forestry Honor Fraternity, Gamma Sigma Delta Agriculture Honor Fraternity, Southwest Forest Industries Scholarship
- Six Sigma Executive Overview, Aug 2004 (SAS Institute)
- JMP Scripting Workshop, Jun 2005 (SAS Institute)
- SAS JMP Software: Design and Analysis of Experiments, Nov 17-18, 2003 (SAS Institute, Cary, NC)
- SAS JMP Software: ANOVA and Regression, Aug 7-8, 2003 (SAS Institute, Cary, NC)
- SAS JMP Software: Statistical Data Exploration, Aug 6, 2003 (SAS Institute, Cary, NC)
- SAS Statistics II: ANOVA and Regression, Oct 27-29, 2003 (SAS Institute, Rockville, MD)
- SAS Statistics I: Introduction to ANOVA, Jun 27-28, 2002 (SAS Institute, Cary, NC)
- SAS Programming I, Jun 4-5, 2002 (SAS Institute, Cary, NC)

TABLE 2c – Larvicidal Activity on *Plutella xylostella*

Thiamethoxam	Abamectin	Found	Expected	Factor (F/E)	Mean No. of Live Insects	Abbott Corrected Mortality	Abbott Adjusted Mortality	Abbott Corrected Expected	Corrected Factor (F/E)
(conc. in ppm)	(conc. in ppm)								
0.002875	--	17	--	--	83	5.7	5.7	--	--
0.00575	--	12	--	--	88	0.0	0.0	--	--
0.0115	--	13	--	--	87	1.1	1.1	--	--
0.023	--	15	--	--	85	3.4	3.4	--	--
0.046	--	12	--	--	88	0.0	0.0	--	--
0.092	--	15	--	--	85	3.4	3.4	--	--
12.5	--	22	--	--	78	11.4	11.4	--	--
25	--	10	--	--	90	-2.3	0.0	--	--
100	--	35	--	--	65	26.1	26.1	--	--
200	--	57	--	--	43	51.1	51.1	--	--
400	--	82	--	--	18	79.5	79.5	--	--
--	0.000313	20	--	--	80	9.1	9.1	--	--
--	0.000625	10	--	--	90	-2.3	0.0	--	--
--	0.00125	10	--	--	90	-2.3	0.0	--	--
--	0.0025	8	--	--	92	-4.5	0.0	--	--
--	0.005	33	--	--	67	23.9	23.9	--	--
--	0.01	72	--	--	28	68.2	68.2	--	--
--	0.02	100	--	--	0	100.0	100.0	--	--
--	0.04	100	--	--	0	100.0	100.0	--	--
--	0.08	100	--	--	0	100.0	100.0	--	--
0.002875	0.000313	25	33.6	0.74	75	14.8	14.8	14	1.04
0.002875	0.000625	22	25.3	0.87	78	11.4	11.4	6	2.00
0.002875	0.00125	15	25.3	0.59	85	3.4	3.4	6	0.60
0.00575	0.000625	18	20.8	0.87	82	6.8	6.8	0	#DIV/0!
0.00575	0.00125	20	20.8	0.96	80	9.1	9.1	0	#DIV/0!
0.00575	0.0025	15	19.04	0.79	85	3.4	3.4	0	#DIV/0!
0.0115	0.00125	28	21.7	1.29	72	18.2	18.2	1	16.00
0.0115	0.0025	45	19.96	2.25	55	37.5	37.5	1	33.00
0.0115	0.005	60	41.71	1.44	40	54.5	54.5	25	2.21
0.0115	0.01	95	75.64	1.26	5	94.3	94.3	69	1.38
0.023	0.0025	40	21.8	1.83	60	31.8	31.8	3	9.33
0.023	0.005	60	43.05	1.39	40	54.5	54.5	26	2.06
0.023	0.01	85	76.2	1.12	15	83.0	83.0	69	1.20
0.023	0.02	100	100	1	0	100.0	100.0	100	1.00
0.046	0.005	43	41.04	1.05	57	35.2	35.2	24	1.48
0.046	0.01	92	75.36	1.22	8	90.9	90.9	68	1.33
0.046	0.02	100	100	1	0	100.0	100.0	100	1.00
0.092	0.01	92	76.2	1.21	8	90.9	90.9	69	1.31
0.092	0.02	98	100	0.98	2	97.7	97.7	100	0.98
	Check	12			88				
	Water	12			88				

PROCEDURES

1. That the following calculations were carried out under my supervision to calculate the corrected mortality of Table 2c from the Declaration of Elke Hillesheim, filed June 9, 2008 using Abbott's Control Correction Formula.

2. I understand Abbott's Control Correction Formula to be commonly used and scientifically accepted as a formula to adjust for mortality of animal pests not associated with an animal pest treatment, such as the natural mortality in an untreated control group, or mortality occurring from a blank spray used a check.

3. RESULTS OF ABBOTT'S CONTROL CORRECTION FORMULA TO TABLE 2C

Table 2c gives the percentage mortality of the mixtures (Found), the Abbott Corrected Mortality, the Abbott Adjusted Mortality (where negative numbers are adjusted to zero), together with the Corrected Expected Mortality (using Abbott's Adjusted Mortality in the Colby Function).

Abbott's Control Correction Formula

$$\%\ Corrected\ \ Mortality\ = 100 \times \left(1 - \frac{n\ in\ T\ \ after\ \ treatment}{n\ in\ C\ \ after\ \ treatment}\right)$$

n = insect population
T = treated
C = control

Colby Function (Expected Values)

$$E = (A + B) - \frac{A \times B}{100}$$

A = % protection of compound 1
B = % protection of compound 2

Table 2c: Percent Mortality on *Plutella xylostella*, 2nd instars, when exposed to various mixtures of Abamectin and Thiamethoxam

FINAL STATEMENT

I, Leslie Fuquay, declare further that all statements made herein of personal knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Leslie D. Fuquay

Signed this 27th day of February 2009

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DECLARATION UNDER RULE 132

I, Elke Hillesheim, a citizen of Germany, residing in Basel, Switzerland, hereby declare:

CREDENTIALS

My Experience

- Project Biologist / Insecticides (SYNGENTA CROP PROTECTION AG)
  - January 2003 until Present
- Team Leader Micro Screens / Insecticides (SYNGENTA CROP PROTECTION AG)
  - January 2001 until January 2003
- Laboratory Leader in HTS-O / Insect Control (NOVARTIS CROP PROTECTION)
  - August 1996 until December 2000
- Laboratory Leader in Research Group Plant Physiology / Biochemistry (SANDOZ AGRO)
  - January 1996 until September 1996
- Laboratory Leader in Entomology (SANDOZ AGRO)
  - Aug. 1991 until Dec. 1995

My Appointments and University Positions

- 1991 Scientific associate at the Centre of Teaching and Research (ZLF) in Basel
- 1988 – 1990 Post-Doctorate position at the Zoological Institute of the University of Basel
  - Reaction norms of *Drosophila melanogaster*.

- 1987 – 1988 Scientific associate at the Institute for honeybee breeding in Erlangen
  - Kin-recognition among honeybees detected by oxygen consumption.

- 1983 – 1987 Scientific associate at the University of Frankfurt a.M.
  - Projects:
    - Heritability of physiological and ethological characteristics of the honeybee.
    - Genetically determinated dominance of worker bees and its influence on the performance of the colony.

My Education and Training

- 1987 Dissertation: "Individual Dominance and its influence on performance of the colony of *Apis mellifera capensis* ESCH."

- 1983 Diploma in biology

- 1978 – 1983 Study of Biology at the J.-W. Goethe Universität in Frankfurt a.M.
  - Major subject: Zoology
  - Minor subjects: Biochemistry, Botany, Pharmacology

- 1966 – 1978 University entrance diploma at ‚Staatliches Neusprachliches Gymnasium in Mayen' (D)

My Awards Received

- 2006: Syngenta Local Stein Award (1st prize/Category technology): Establishment of Micro Profiling Screens – Evolution of a modern screening platform

- 1999: Idea Nova Global Award (2nd prize): High Throughput Screening on Target Organisms

My Areas of Expertise:

- Entomology / Plant protection / Population genetics
- Project-Management
- Anti-resistance-Projects
- GLP experience for bee toxicity studies
- Field trials – Organization, Analysis, Interpretation, Presentation
- Development, validation of various test methods
- Development and establishing of an HTScreening (Entomology)
- Establishment of special tests (Entomology, Herbology)
- Experience in biochemical tests (ELISA, protein determination)

COMPARATIVE PROCEDURES

1. That the following tests were carried out under my supervision in a Laboratory in Stein / Aargau/Switzerland to determine if mixtures of Abamectin and Thiamethoxam have synergistic effects on:
    a. *Heliothis virescens*
        i. Tobacco budworm
        ii. Ovolarvicidal (eggs and L1)
    b. *Plutella xyolstella*
        i. Diamond-back moth (L2)
    c. *Tetranychus urticae*
        i. Two-spotted spider mite (mixed population)
2. The following bioassays were performed:
    a. *Heliothis virescens* (MPS Method)
        i. 24 well microtiterplates (MTP) were used. Each well contained 0.5 ml *Heliothis* diet. Each well contained 30 to 40 eggs. The test solution was pipetted on top of the eggs and the artificial diet (40 µl per well). 24 hours after the application the MTP's were covered with a thick filter paper and a stainless steel lid containing holes. The MTP's were incubated in an incubator at 28/27 °C at 60 % relative humidity with 14 hrs of light. Assessment was made 4 days after application. Ovicidal activity and % mortality was assessed on first instars. 6 replicates per concentration per product.
    b. *Plutella xylostella* (MPS Method)
        i. 24 well microtiterplates (MTP) were used. Each well contained 0.5 ml *Plutella* diet. 50 µl test solution was pipetted on top of the diet. 24 hours later 10 larvae (L2) were placed in each well. The MTP's were covered with a thick filter paper and a stainless steel lid containing holes. The MTP's were incubated in an incubator at 24 °C at 55 % relative humidity with 6 hrs of light. Assessment was made 5 days after infestation (% mortality on larvae). 6 replicates per concentration per product.
    c. *Tetranychus urticae* (Preventative)
        i. Bean plants were treated in a turntable sprayer (ARO 1-100 ml). After drying plants were infested with mites (mobile stages). The bean plants were incubated in a climatic room at 25 °C at 50 % relative humidity with 14 hrs of light. Assessment was made 8 days after infestation (number of eggs and % mortality of mites - all stages). Therefore a section of a leaf (48 mm diameter ***punch size***) was punched and eggs were counted up to 50; if more than 50 classes were estimated and mites (nymphs and adults) were counted. 4 replicates per concentration per product.

3. **DOSE RESPONSE CURVES FOR ABAMECTIN (EC 018 = 1.8% / VERTIMEC) AND THIAMETHOXAM (WG 25 = 25% / ACTARA) WERE GENERATED WITH ALL THREE INSECTS – TABLES 1A-1E.**

Table 1a & 1b : Percent Mortality on *Heliothis virescens* (ovolarvicidal activity), eggs and 1st instars, when treated with Abamectin or Thiamethoxam

TABLE 1a – Ovicidal Activity		
Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	% Mortality
12.5	--	0
25	--	20
50	--	40
100	--	80
200	--	100
--	0.0125	0
--	0.025	0
--	0.05	28
--	0.1	30
--	0.2	58
--	0.4	75
--	0.8	65*

Water = 0
Check = 0
* value not used for LC calculation

TABLE 1b – Larvicidal Activity		
Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	% Mortality
12.5	--	0
25	--	0
50	--	10
100	--	95
200	--	100
--	0.0125	0
--	0.025	5
--	0.05	28
--	0.1	53
--	0.2	80
--	0.4	88
--	0.8	90

Water = 0
Check = 0

Table 1c: Percent Mortality on *Plutella xylostella*, 2nd instars, when treated with Abamectin or Thiamehoxam

TABLE 1c – Larvicidal Activity		
Thiamethoxam	Abamectin	% Mortality

(conc. in ppm)	(conc. in ppm)	
12.5	--	30
25	--	23
50	--	38
100	--	35
200	--	45
--	0.0025	20
--	0.005	58
--	0.01	93
--	0.02	93
--	0.04	100
--	0.08	100

Water = 8
Check = 8

Table 1d & 1e: Percent Mortality on *Tetranuchus urticae,* mixed population, when treated with Abamectin or Thiamethoxam

TABLE 1d – Ovicidal Activity		
Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	% Mortality
6.25	--	0
12.5	--	29
25	--	0
50	--	29
100	--	59
--	0.00156	0
--	0.00313	14
--	0.00625	14
--	0.0125	0
--	0.025	29
--	0.05	43
--	0.1	34

Water = 0
Check = 0

TABLE 1e – % Mortality of Nymphs and Adults		
Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	% Mortality
6.25	--	7
12.5	--	1
25	--	7
50	--	13
100	--	0

--	0.00156	5
--	0.00313	18
--	0.00625	0
--	0.0125	1
--	0.025	25
--	0.05	26
--	0.1	44

Water = 0
Check = 0

4. RESULTS OF EXPOSURE TO VARIOUS MIXTURES OF ABAMECTIN AND THIAMETHOXAM

Tables 2a-2e give the percentage mortality of the mixtures (Found) together with the calculated (Expected) values based on the Colby Function.

Colby Function (Expected Values)

$$E = (A + B) - \frac{A \times B}{100}$$

A = % protection of compound 1
B = % protection of compound 2

Tables 2a & 2b: Percent Mortality on *Heliothis virescens*, eggs and 1st instars, when exposed to various mixtures of Abamectin (VERTIMEC EC 018) and Thiamethoxam (ACTARA; WG 25)

TABLE 2a – Ovicidal Activity on Heliothis

Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	Ratio (A:T)	Found	Expected	Factor (F/E)
0.02875	--	--	0	--	--
0.0575	--	--	0	--	--
0.115	--	--	0	--	--
0.23	--	--	0	--	--
0.46	--	--	0	--	--
0.92	--	--	0	--	--
12.5	--	--	3	--	--
25	--	--	2	--	--
75	--	--	82	--	--
100	--	--	97	--	--
200	--	--	97	--	--
--	0.003215	--	0	--	--
--	0.00625	--	0	--	--
--	0.0125	--	3	--	--
--	0.025	--	3	--	--
--	0.05	--	22	--	--

--	0.1	--	42	--	--
--	0.2	--	77	--	--
--	0.8	--	83	--	--
0.02875	0.003125	1:9.2	0	0	--
0.02875	0.00625	1:4.6	0	0	--
0.02875	0.0125	1:2.3	0	3	0
0.0575	0.00625	1:9.2	0	0	--
0.0575	0.0125	1:4.6	0	3	0
0.0575	0.025	1:2.3	10	3	3.33
0.0575	0.05	1:1.15	63	22	2.86
0.115	0.0125	1:9.2	0	3	0
0.115	0.025	1:4.6	10	3	3.33
0.115	0.05	1:2.3	55	22	2.50
0.115	0.1	1:1.15	73	42	1.74
0.23	0.025	1:9.2	10	3	3.33
0.23	0.05	1:4.6	67	22	3.05
0.23	0.1	1:2.3	80	42	1.90
0.46	0.05	1:9.2	60	22	2.73
0.46	0.1	1:4.6	58	42	1.38
0.92	0.1	1:9.2	70	42	1.67
0.92	0.2	1:4.6	80	77	1.04

Water = 0
Check = 0

TABLE 2b – Larvicidal Activity on Heliothis

Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	Ratio (A:T)	Found	Expected	Factor (F/E)
0.02875	--	--	0	--	--
0.0575	--	--	0	--	--
0.115	--	--	0	--	--
0.23	--	--	0	--	--
0.46	--	--	0	--	--
0.92	--	--	0	--	--
12.5	--	--	0	--	--
25	--	--	0	--	--
75	--	--	0	--	--
100	--	--	97	--	--
200	--	--	98	--	--
--	0.003215	--	0	--	--
--	0.00625	--	0	--	--
--	0.0125	--	0	--	--
--	0.025	--	7	--	--
--	0.05	--	55	--	--
--	0.1	--	95	--	--
--	0.2	--	100	--	--

--	0.8	--	100	--	--
0.02875	0.003125	1:9.2	0	0	--
0.02875	0.00625	1:4.6	0	0	--
0.02875	0.0125	1:2.3	0	0	--
0.0575	0.00625	1:9.2	0	0	--
0.0575	0.0125	1:4.6	0	0	--
0.0575	0.025	1:2.3	93	7	13.29
0.0575	0.05	1:1.15	85	55	1.55
0.115	0.0125	1:9.2	0	0	--
0.115	0.025	1:4.6	0	7	0
0.115	0.05	1:2.3	60	55	1.09
0.115	0.1	1:1.15	100	95	1.05
0.23	0.025	1:9.2	85	7	12.14
0.23	0.05	1:4.6	80	55	1.45
0.23	0.1	1:2.3	90	95	0.95
0.46	0.05	1:9.2	77	55	1.40
0.46	0.1	1:4.6	82	95	0.86
0.92	0.1	1:9.2	90	95	0.95
0.92	0.2	1:4.6	100	100	1.00

Water = 0
Check = 0

Table 2c: Percent Mortality on *Plutella xylostella,* 2nd instars, when exposed to various mixtures of Abamectin and Thiamethoxam

TABLE 2c – Larvicidal Activity on *Plutella xylostella*					
Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	Ratio (A:T)	Found	Expected	Factor (F/E)
0.002875	--	--	17	--	--
0.00575	--	--	12	--	--
0.0115	--	--	13	--	--
0.023	--	--	15	--	--
0.046	--	--	12	--	--
0.092	--	--	15	--	--
12.5	--	--	22	--	--
25	--	--	10	--	--
100	--	--	35	--	--
200	--	--	57	--	--
400	--	--	82	--	--
--	0.000313	--	20	--	--
--	0.000625	--	10	--	--
--	0.00125	--	10	--	--
--	0.0025	--	8	--	--
--	0.005	--	33	--	--
--	0.01	--	72	--	--

--	0.02	--	100	--	--
--	0.04	--	100	--	--
--	0.08	--	100	--	--
0.002875	0.000313	1:9.2	25	33.6	0.74
0.002875	0.000625	1:4.6	22	25.3	0.87
0.002875	0.00125	1:2.3	15	25.3	0.59
0.00575	0.000625	1:9.2	18	20.8	0.87
0.00575	0.00125	1:4.6	20	20.8	0.96
0.00575	0.0025	1:2.3	15	19.04	0.79
0.0115	0.00125	1:9.2	28	21.7	1.29
0.0115	0.0025	1:4.6	45	19.96	2.25
0.0115	0.005	1:2.3	60	41.71	1.44
0.0115	0.01	1:1.15	95	75.64	1.26
0.023	0.0025	1:9.2	40	21.8	1.83
0.023	0.005	1:4.6	60	43.05	1.39
0.023	0.01	1:2.3	85	76.2	1.12
0.023	0.02	1:1.15	100	100	1.00
0.046	0.005	1:9.2	43	41.04	1.05
0.046	0.01	1:4.6	92	75.36	1.22
0.046	0.02	1:2.3	100	100	1.00
0.092	0.01	1:9.2	92	76.2	1.21
0.092	0.02	1:4.6	98	100	0.98

Water = 12
Check = 12

Table 2d & 2e: Percent Mortality on *Tetranychus urticae*, mixed population, when exposed to various mixtures of Abamectin and Thiamethoxam.

TABLE 2d – Ovicidal Activity on Tetranychus					
Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	Ratio (A:T)	Found	Expected	Factor (F/E)
0.02875	--	--	45	--	--
0.0575	--	--	40	--	--
0.115	--	--	30	--	--
0.23	--	--	5	--	--
0.46	--	--	37	--	--
0.92	--	--	65	--	--
12.5	--	--	35	--	--
50	--	--	35	--	--
100	--	--	45	--	--
200	--	--	30	--	--
400	--	--	30	--	--
--	0.003215	--	0	--	--
--	0.00625	--	0	--	--

--	0.0125	--	0	--	--
--	0.025	--	40	--	--
--	0.05	--	50	--	--
--	0.1	--	20	--	--
--	0.2	--	64	--	--
--	0.4	--	98	--	--
--	0.8	--	96	--	--
0.02875	0.003125	1:9.2	25	45	0.56
0.02875	0.00625	1:4.6	40	45	0.89
0.02875	0.0125	1:2.3	52	45	1.16
0.0575	0.00625	1:9.2	25	40	0.63
0.0575	0.0125	1:4.6	45	40	1.13
0.0575	0.025	1:2.3	15	64	0.23
0.115	0.0125	1:9.2	20	30	0.67
0.115	0.025	1:4.6	20	58	0.34
0.115	0.05	1:2.3	20	65	0.31
0.115	0.1	1:1.15	25	44	0.57
0.23	0.025	1:9.2	42	43	0.98
0.23	0.05	1:4.6	63	52.5	1.20
0.23	0.1	1:2.3	66	24	2.75
0.23	0.2	1:1.15	69	65.8	1.05
0.46	0.05	1:9.2	35	68.5	0.51
0.46	0.1	1:4.6	50	49.6	1.01
0.46	0.2	1:2.3	97	77.32	1.25
0.92	0.1	1:9.2	81	72	1.13
0.92	0.2	1:4.6	87	87.4	1.00

Water = 0
Check = 0

TABLE 2e – Activity on Nymphs and Adults of Tetranychus

Thiamethoxam (conc. in ppm)	Abamectin (conc. in ppm)	Ratio (A:T)	Found	Expected	Factor (F/E)
0.02875	--	--	39	--	--
0.0575	--	--	40	--	--
0.115	--	--	36	--	--
0.23	--	--	30	--	--
0.46	--	--	44	--	--
0.92	--	--	52	--	--
12.5	--	--	58	--	--
50	--	--	57	--	--
100	--	--	31	--	--
200	--	--	41	--	--
400	--	--	52	--	--
--	0.003215	--	0	--	--
--	0.00625	--	0	--	--

--	0.0125	--	0	--	--
--	0.025	--	0	--	--
--	0.05	--	35	--	--
--	0.1	--	51	--	--
--	0.2	--	66	--	--
--	0.4	--	89	--	--
--	0.8	--	97	--	--
0.02875	0.003125	1:9.2	48	39	1.23
0.02875	0.00625	1:4.6	62	39	1.59
0.02875	0.0125	1:2.3	64	39	1.64
0.0575	0.00625	1:9.2	53	40	1.33
0.0575	0.0125	1:4.6	25	40	0.63
0.0575	0.025	1:2.3	43	40	1.08
0.115	0.0125	1:9.2	0	36	0
0.115	0.025	1:4.6	21	36	0.58
0.115	0.05	1:2.3	9	58.4	0.15
0.115	0.1	1:1.15	35	68.64	0.51
0.23	0.025	1:9.2	0	30	0
0.23	0.05	1:4.6	0	54.5	0
0.23	0.1	1:2.3	38	65.7	0.58
0.23	0.2	1:1.15	33	76.2	0.43
0.46	0.05	1:9.2	0	63.6	0
0.46	0.1	1:4.6	35	72.56	0.48
0.46	0.2	1:2.3	33	80.96	0.41
0.92	0.1	1:9.2	32	76.48	0.42
0.92	0.2	1:4.6	54	83.68	0.65

Water = 0
Check = 0

CONCLUSIONS

5. Clear, unexpected synergism of the mixture, Abamectin and Thiamethoxam, was found on *Heliothis virescens* (eggs and larvae) at different ratios (see Tables 2a and 2b). For example, an ovicidal activity of 67% was found when mixing 0.23 ppm of Thiamethoxam with 0.05 ppm of Abamectin (see Table 2a). The expected activity of this mixture was 22%; this means an increase on activity of 45%.

6. Another unexpected synergism of the mixture, Abamectin and Thiamethoxam, was found on *Plutella xlyostella* (see Table 2c). For example, a larvicidal activity of 40% was found when mixing 0.023 ppm of Thiamethoxam with 0.0025 ppm of Abamectin (see Table 2c). The

expected activity of this mixture was 21.8%; this means an increase on activity of 18.2%. Also, a larvicidal activity of 45% was found when mixing 0.0115 ppm of Thiamethoxam with 0.0025 ppm of Abamectin (see Table 2c). The expected activity of this mixture was 19.96%; this means an increase on activity of 25.04%.

FINAL STATEMENT

I, Elke Hillesheim, declare further that all statements made herein of personal knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Signed this 2nd day of June 2008

E. Hillsheim

ELKE HILLESHEIM